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Reply to Office action of 3 October 2008

Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 (Canceled)

2. (Currently amended) The method of claim ~~1~~ 10 comprising updating lamp operating parameters to suit the determined lamp type.

3. (Currently amended) The method of claim 2, wherein the lamp operating parameters are selected from the group consisting of a dimming curve, a maximum operating current, a minimum operating current, an operating frequency, and an operating current as a function of frequency for a given dimming level.

4. (Currently amended) The method of claim ~~1 further comprising~~ 10, including storing the determined lamp type.

5. (Currently amended) The method of claim ~~1 further comprising~~ 10, including comparing the determined lamp type to a stored lamp type.

6. (Original) The method of claim 5 wherein the stored lamp type is selected from the group consisting of a preceding determined lamp type and a weighted average of previously determined lamp types.

7. (Original) The method of claim 5 further comprising re-checking the determined lamp type if the determined lamp type is different than the stored lamp type.

8 (Canceled)

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9. (Currently amended) The system method of claim 8 10, wherein the measuring a of the first filament current after the lamp filament has been heated and before the predetermined time comprises measuring the first filament current at about one half the predetermined time.

10. (Currently amended) A method for lamp type determination for an electronic ballast comprising:

 heating a lamp filament by applying a voltage at a first frequency to the lamp filament for a predetermined time;

 measuring a first filament current after the lamp filament has been heated and before the predetermined time;

 measuring a second filament current at the predetermined time; and The system of claim 8 wherein the

 determining a lamp type from the measured filament characteristics 254 comprises by:

 calculating a slope of a line connecting the first filament current and the second filament current as a function of time; and

 comparing the slope and the second filament current to slope and current values indexed by lamp type.

11 (Canceled)

12. (Currently amended) The method of claim 11 10, wherein the determining of the lamp type from the measured filament characteristics 254 comprises includes comparing the first filament current and the second filament current to current values at different frequencies indexed by lamp type.

13. (Currently amended) The method of claim 1 further comprising 10, including providing an indication if the determined lamp type is not correct for the electronic ballast.

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14. (Currently amended) The method of claim ~~1~~ 10. wherein the measuring of the filament characteristics of the heated filament ~~252 is performed by a method selected from the group consisting of~~ includes at least one of: measuring lamp filament current, measuring lamp filament resistance, and measuring lamp filament voltage.

15 (Canceled)

16. (Currently amended) The system of claim ~~15 further comprising~~ 20, including means for updating lamp operating parameters to suit the determined lamp type.

17. (Currently amended) The system of claim ~~15 further comprising~~ 20, including means for storing the determined lamp type.

18. (Currently amended) The system of claim ~~15 further comprising~~ 20, including means for comparing the determined lamp type to a stored lamp type.

19 (Canceled)

20. (Currently amended) ~~The system of claim 19 wherein the~~ A system for lamp type determination for an electronic ballast comprising:

____ means for heating a lamp filament by applying a voltage at a first frequency to the lamp filament for a predetermined time;

____ means for measuring a first filament current after the lamp filament has been heated and before the predetermined time;

____ means for measuring a second filament current at the predetermined time; and

____ means for determining lamp type, including ~~from the measured filament characteristics comprises~~:

means for calculating a slope of a line connecting the first filament current and the second filament current as a function of time; and

means for comparing the slope and the second filament current to slope and current values indexed by lamp type.

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21. (Currently amended) The system of claim ~~15~~ 20, wherein the means for measuring the filament characteristics of the heated filament includes ~~comprises~~:

22. (Currently amended) ~~The system of claim 21 wherein the~~ A system for lamp type determination for an electronic ballast comprising:

    means for heating a lamp filament by applying a voltage at a first frequency to the lamp filament for a first predetermined time;

    means for measuring a first filament current at the first predetermined time;

    means for applying a second voltage at a second frequency to the lamp filament for a second predetermined time;

    means for measuring a second filament current at the second predetermined time; and

    means for determining lamp type by ~~from the measured filament characteristics comprises means for~~ comparing the first filament current and the second filament current to current values at different frequencies indexed by lamp type.

23. (Currently amended) The system of claim ~~15 further comprising~~ 22, including means for providing indication if the determined lamp type is not correct for the electronic ballast

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24. (Currently amended) An electronic ballast with lamp type determination, the electronic ballast providing power to a lamp filament, the electronic ballast comprising:

a filament current sensing circuit 138 operably connected to the lamp filament and generating a sensed filament current signal 150; and

a microprocessor 128 receiving the sensed filament current signal 150 and operably connected to control the power to the lamp filament;

wherein the microprocessor 128 is programmed to:

_____heat the lamp filament by applying the power at a first frequency, measure filament characteristics, for a predetermined time;

_____measure a first filament current after the lamp filament has been heated and before the predetermined time;

_____measure a second filament current at the predetermined time; and

determine a lamp type from the measured filament characteristics by:

_____calculating a slope of a line connecting the first filament current and the second filament current as a function of time; and

_____comparing the slope and the second filament current to slope and current values indexed by lamp type.

25. (Original) The electronic ballast of claim 24 wherein the microprocessor 128 is programmed to update operating parameters for the electronic ballast to suit the determined lamp type.

26. (Original) The electronic ballast of claim 24 wherein the microprocessor 128 includes memory and is programmed to store the determined lamp type in the memory.

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27. (New) An electronic ballast comprising:

a power supply that is configured to supply a variable current to a filament of a lamp,

one or more sensors that are configured to monitor one or more operating characteristics of the lamp,

a processor that is configured to, upon each activation of the lamp:

if a type of the lamp is not currently stored:

determine the type of the lamp based on the one or more operating characteristics,

store the type of the lamp, and

control the power supply based on the type of the lamp;

if the type of the lamp is currently stored:

retrieve the type of the lamp, and

control the power supply based on the type of the lamp.

28. (New) The electronic ballast of claim 27, wherein the processor is configured to subsequently compare at least one of the one or more of the operating characteristics of the lamp to at least one predefined characteristic based on the type of the lamp, and, if the comparison indicates a significant difference, re-determine the type of the lamp based on the one or more of the operating characteristics.

29. (New) The electronic ballast of claim 27, wherein the processor is configured to determine the type of the lamp based on a rate of change of the one or more characteristics.

30. (New) The electronic ballast of claim 27, wherein the processor is configured to determine the type of the lamp based on a curve-fitting of the one or more characteristics to predefined parameters of each of a plurality of predefined lamp types.

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31. (New) The electronic ballast of claim 27, wherein the processor is configured to determine the type of the lamp based on at least a measured first filament current at a first time and a second filament current at a second time.

32. (New) The electronic ballast of claim 31, wherein the processor is configured to compare the at least first filament current and second filament current to at least a first predefined current and a second predefined current, respectively, for each of a plurality of predefined lamp types.

33. (New) An electronic ballast comprising:

a power supply that is configured to supply a variable current to a filament of a lamp,

one or more sensors that are configured to monitor the filament current of the lamp,

a processor that is configured to:

determine one or more time-dependent characteristics of the filament current based on at least a first filament current at a first time and a second filament current at a second time,

determine a type of the lamp based on the one or more time-dependent characteristics of the filament current, and

control the power supply based on the type of the lamp.

34. (New) The electronic ballast of claim 32, wherein the processor is configured to determine the type of the lamp by comparing the one or more time-dependent characteristics of the lamp to one or more predefined time-dependent characteristics of each of a plurality of predefined lamp types.

35. (New) The electronic ballast of claim 32, wherein the time-dependent characteristic of the lamp is a rate of change of the filament current.